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# THE UNITED STATES OF AMERICA

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UNITED STATES DEPARTMENT OF COMMERCE  
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July 15, 2003

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APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A  
FILING DATE.

APPLICATION NUMBER: 60/388,778

FILING DATE: June 14, 2002

RELATED PCT APPLICATION NUMBER: PCT/US03/18806

By Authority of the  
COMMISSIONER OF PATENTS AND TRADEMARKS



*N. Woodson*  
N. WOODSON  
Certifying Officer

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PTO/SB/16 (11-95)

Approved for use through 01/31/98. OMB D651-0037  
Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE**PROVISIONAL APPLICATION FOR PATENT COVER SHEET**

This is a request for filing a PROVISIONAL APPLICATION FOR PATENT under 37 CFR 1.53 (b)(2).

Docket Number		AC212/2000		Type a plus sign (+) inside this box →	+
INVENTOR(s)/APPLICANT(s)					
LAST NAME	FIRST NAME	MIDDLE INITIAL	RESIDENCE (CITY AND EITHER STATE OR FOREIGN COUNTRY)		
Parent	Stephen	E.	Louisville, Kentucky		
TITLE OF THE INVENTION (250 characters max)					
SPIKED PLATE FOR LOG END AND HAND TOOL FOR REMOVING SAME					
CORRESPONDENCE ADDRESS					
David W. Carrithers, CARRITHERS LAW OFFICE, One Paragon Centre 6060 Dutchman's Lane, Suite 140, Louisville					
STATE	KY	ZIP CODE	40205	COUNTRY	U.S.A.
ENCLOSED APPLICATION PARTS (check all that apply)					
<input checked="" type="checkbox"/> Specification	Number of Pages	13	<input checked="" type="checkbox"/> Small Entity Statement		
<input checked="" type="checkbox"/> Drawing(s)	Number of Sheets	7	<input checked="" type="checkbox"/> Other (specify)	Abstract	
METHOD OF PAYMENT OF FILING FEES FOR THIS PROVISIONAL APPLICATION FOR PATENT (check one)					
<input checked="" type="checkbox"/> A check or money order is enclosed to cover the filing fees				FILING FEE AMOUNT (\$)	80.00
<input type="checkbox"/> The Commissioner is hereby authorized to charge filing fees and credit Deposit Account Number:					

The invention was made by an agency of the United States Government or under a contract with an agency of the United States Government.

☒ No.☐ Yes, the name of the U.S. Government agency and the Government contract number are: \_\_\_\_\_

Respectfully submitted,

SIGNATURE

*David W. Carrithers*

Date

06/14/02

TYPED or PRINTED NAME David W. CarrithersREGISTRATION NO.  
(if appropriate)

35475

☐ Additional inventors are being named on separately numbered sheets attached hereto**USE ONLY FOR FILING A PROVISIONAL APPLICATION FOR PATENT**

**Burden Hour Statement:** This form is estimated to take 2 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Box Provisional Application, Assistant Commissioner for Patents, Washington, DC 20231

06/14/02  
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60/388778

60388778-061402

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Stephen E. Parent )  
Filed: Simultaneously Herewith ) Examiner:  
Serial No: ) Group Art Unit:  
For: SPIKED PLATE FOR LOG END AND HAND )  
TOOL FOR REMOVING SAME )  
Atty. Docket No.: AC212/2000 )

Assistant Commissioner for Patents  
Box PROVISIONAL  
Washington, D.C. 20231

EXPRESS MAIL CERTIFICATE

"Express Mail" Mailing Label Number EL333998375US

Date of Deposit 06/14/02

Dear Sir:

I hereby certify that the attached U.S. Provisional Patent Application including specification and claim, Abstract, unexecuted Declaration and Power of Attorney, provisional application transmittal letter, Small Entity Statement for Individual Inventor; seven (7) sheets of drawings, check in the amount of \$80.00 for the filing fee, and return postcard are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR §1.10 on the date indicated above and is addressed to the Assistant Commissioner for Patents, Box Provisional, Washington, D.C. 20231.

Yelizaveta Klimova Troxler  
(Typed or printed name of person mailing paper or fee)

Klimova  
(Signature of person Mailing paper or fee)

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Stephen E. Parent )  
Filed: Simultaneously Herewith ) Examiner:  
Serial No: ) Group Art Unit:  
For: SPIKED PLATE FOR LOG END AND HAND )  
TOOL FOR REMOVING SAME )  
Atty. Docket No.: AC212/2000 )

Assistant Commissioner for Patents  
Box PROVISIONAL  
Washington, D.C. 20231

PROVISIONAL PATENT APPLICATION TRANSMITTAL LETTER

Dear Sir:

Enclosed herewith for filing are:


- 1) The Provisional patent application of Owen Robert Thompson including specification, claim, and 7 pages of drawings;
- 2) A check for \$80.00 in payment for the filing fee;
- 3) Unexecuted Declaration and Power of Attorney;
- 4) Abstract of the Invention;
- 5) Provisional Application Transmittal Sheet;
- 6) Express Mail Certificate; and
- 7) A return postcard showing receipt of the above items.

Applicant is a Small Entity inventor as defined in 37 CFR 1.9(c) for purposes of paying reduced fees under section 41(a) and (b) of Title 35, United States Code.

Please process this application.

Respectfully submitted,

Date 6/14/02

  
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

PROVISIONAL PATENT APPLICATION

FOR

SPIKED PLATE FOR LOG END AND HAND TOOL FOR REMOVING THE SAME

BY

STEPHEN E. PARENT

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TITLE

Spiked Plate for Log End and Hand Tool for Removing the Same

FIELD OF INVENTION

5 This invention relates generally to the logging industry and more particularly to improvements in arresting splits that occur in logs as they dry, to a plate having spikes integral therewith that project therefrom for impaling the end of a log on opposite sides of one or more gaps in the end of the log as a result of one or more splits in that log and wherein the plate has a tab, or tabs, integral therewith that can be gripped to remove the plate from the log and to a hand tool for removing the plate from the log.

BACKGROUND OF INVENTION

10 Logs split as they are drying after having been felled in the forest and a split shows as a crack in the end of the log. These splits, particularly in hardwoods, can result in substantial loss of lumber that otherwise would be obtainable from the log. In the past metal "S" shaped clips, referred to also as hooks, have been driven edgewise into the end of a log at a position transverse to the crack, or cracks as the case maybe, to prevent the gap of the crack from increasing in size and thereby prevent the split from traveling further along the log. While the "S" clips arrest the splitting they must be removed before the log is cut into pieces lumber or timber at the saw mill. The "S" clips however are difficult and therefore time consuming to remove. Often workers just leave the very difficult ones in the log and this can cause not only severe damage to the saw blades but also endangers the well being of any nearby mill workers. The metal "S" clips were really made for the ends of railway ties where they were intended to stay for the life of the tie.

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More recently the U.C. Coatings Corporation of Buffalo NY have made available, under the Trademark "HR-LogSavers", an 'H' shaped device that can be driven into the end of a log like the "S" clips but instead of metal it is made of a plastics material.. The literature indicates that "since they can be sawn through, they eliminate potential damage to saws and the danger of machine operators from flying material." These 'H' shaped clips however, like the 'S' clips, must be driven edgewise into the end of the log and even with a sharpened edge this can be difficult particularly with hard woods.

In the building art spiked plate like connector plates are known for joining together components and by way of example such connector plates are conventionally found in roof trusses. The connectors are stamped metal plates and have a plurality of spikes projecting from one face thereof for impaling the lumber pieces. The spikes may be variously shaped and/or barbed to improve the holding power and/or drawing together adjacently disposed pieces as the spikes are driven into the lumber. By way of example connector plates with various features are disclosed in the following United States Patents:

5,833,421 granted Nov. 10, 1998 to William F. Lees et al

5,632,128 granted May,27, 1997 to Robert S. Agar

5,410,854 granted May 2, 1995 to Bruce A. Kimmell et al

4,887,952 granted Dec. 19, 1989 to Johann Wolf

4,343,580 granted Aug. 10, 1982 to Anthony M. Moyer et al.

A nail end plate for wooden ties is disclosed in United States utility patent

5,116,179 granted May 26, 1992 to Gordon E. Matlock

The known connector plates and the known log end plates do not incorporate any feature, or features, that facilitate their removal from their place of use.

There are variously shaped hammer heads for attaching and removing fasteners and the following United States Design Patents are examples of a few:

420,268 granted Feb. 8, 2000 to T. Coonrad

388,303 granted Dec.30, 1997 to M. Berggren

386,380 granted Nov.18, 1997 to D. Villarreal

353,758 granted Dec. 27, 1994 to J. Frykman

54,285 granted Apr. 18, 1920 to J. Barns

None of the forgoing tools are adapted for removing a spiked plate from its place of use.

#### SUMMARY OF INVENTION

An object of the present invention is to provide a connector type plate with means to facilitate removal of the same by a tool that engages and cooperates with such means.

A further object of the present invention is to provide a spiked log end plate and such a plate with a tab that is engageable by a tool used to remove the plate from an in-situ use of the plate.

A further principal object of the present invention is to provide a hand tool for removing spike type connector plates and log end plates from their in-situ use.

#### LIST OF DRAWINGS



The invention is illustrated, by way of example, in the accompanying drawings wherein:

Figure 1 is an oblique view showing a portion of the end of a log with a log end plate of the present invention spanning the gap of a crack in the end of the log and with the spikes of the plate impaled in the log on respective opposite sides of the crack;

Figure 2 is an oblique view of the log end plate of figure 1 showing it from the opposite side and not mounted on the log;

Figure 3 is an oblique view of the end plate of the present invention on the end of a log and one embodiment of a hand tool of the present invention shown in position for driving the end plate into the end of the log;

Figure 4 is an oblique view of a replaceable head weight impact portion of the hand tool shown in figure 3;

Figure 5 is an oblique view of the end plate in a log and showing the hand tool of figure 3 in a first position for the initial step in removing the end plate;

Figure 6 is similar to figure 5 but illustrating the second tab gripping position of the tool for removing the plate from the end of the timber;

Figure 7 is an oblique view of a spiked plate in the end of a log;

Figure 8 is an oblique view illustrating a second embodiment of the hand tool and in a first position thereof to bend the lift tab for removing the plate; and

Figure 9 is an oblique view similar to figure 8 but illustrating the hand tool in a second tab gripping position to remove the tab from the end of the log.

Figures 10 and 11 show a preferred embodiment of a log staple.

Figures 12 and 13 show another preferred embodiment of a log staple.

Figure 14 shows another preferred embodiment of a log staple.

Figures 15 and 16 show an alternate embodiment of an attachment and removal tool for the log staples.

# DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring generally to the drawings, figures 1 to 6 and 7 to 9 illustrate respectively two embodiments or log end plates that have spikes integral therewith for impaling the end of a log. The end plates have a pair of pull tabs, in accordance with one aspect of the present invention, that are engageable by a tool provided in accordance with another aspect of the present invention used to remove the plate from the log. The plate of figure 1 is primarily intended as a log end plate while the spiked plate of figure 7 maybe a connector plate or a log end plate. Normally the end plate is made of heavier material and preferrably the pull tabs have means thereon that space them a selected amount from the adjacent end face of the log.

A hand tool, similar to a claw hammer but differing therefrom by having a slot in one end of the head, is used to drive the spikes of the plate into the log and also remove the end plate from a log. The head of the tool has a curved outer face that is in rolling contact with the plate during pulling of the spikes from the wood. During this operation the plate bends as the tool is rolled over the outer face thereof. The pull tab bends and thereby self-locking onto the tool as the tool outer curved face is brought into rolling contact with the outer face of the plate.

Referring now specifically to figures 1 & 2 there is illustrated a log end plate 10, of the present invention, spanning across a crack 20 in the end 21 of a log such crack being the end of a split in the log. The log end plate 10 has a pair of oppositely disposed ends designated respectively 12 and 13, a pair of longitudinal marginal edges 14 and 15 and a pair of oppositely disposed faces 16 and 17. A plurality of spikes 11, integral with

the plate, project outwardly from the face 16 and impale the end of the log on each of respective opposite sides of the crack 20. The plate spans across the crack and prevents enlargement of the same thereby restraining the split from progressing further along the log.

5           The spikes are preferably stiffened by suitable means such as for example a rib 11A that extends from adjacent the plate face 16 to near the tip of the spike. Alternatively the spikes maybe bent so as to be generally 'V' shape in cross-section. The ribs, or the apex of the 'V' as the case maybe, project in a direction toward (or away as maybe desired) the plate's axis of symmetry disposed transverse to the length of the plate and shown in figure 2 as a broken line designated 2-2. The spikes on each of the  
10           respective opposite sides of this axis of symmetry slope upwardly away from the plate face 16 in a direction away from the axis of symmetry and as they are driven into the end of the log a force is applied having a tendency to close the gap of the crack. The plate is a generally flat planar element with the spikes projecting therefrom. If desired however  
15           the plate can be curved somewhat so as to be slightly concave or slightly convex depending upon the holding characteristics desired.

          The log end plates, in accordance with the present invention, have a spaced apart pair of pull tabs. In the embodiment illustrated in figures 1 to 6 the pull tabs, designated respectively 18 and 19, are located in respective open windows 21,22 in the plate. The  
20           pull tabs extend in a direction toward one another terminating in respective free outer ends 23,24. In the embodiment of the plate illustrated in figures 7 to 9 there are pull tabs 25, 26 located at respective opposite ends of the plate. In this embodiment the pull tabs

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extend in a direction away from one another.

The pull tabs are correlated in length and thickness to the size of a slot in the head of a hand tool used to remove an end plate from the end of a log. The pull tabs preferably are spaced slightly outwardly from the adjacent end face of the log. Such spacing is assured by having one or more discrete projections designated 18A, 19A, or ribs, on each of the respective tabs and these projections extend in a direction toward the end face of the log. The projections are made by a punching operation and thus appear a dimples in the face of the pull tabs seen in figure 1. Alternatively the terminal end of a tab maybe turned upwardly in a direction away from the surface 17 i.e in a direction away from the adjacent end face of the log. Care however must be exercised so as to not straighten this bent when driving the spikes into the log. As an alternative the tab ends maybe tapered in a direction away from the plate surface 16 ( i.e. the log end face 21) to a thin free edge near the plane of the surface 17.

The log end plate shown in figure 7 is similar to a conventional connector plate but differs therefrom by being made of a heavier material and having means thereon to space the pull tabs a selected distance from the end face of the log. Such means may consist of one or more projections 18A, 19A ( lugs or ribs) on or integral with the pull tabs and which project toward the end face of the log. The plate has portions struck outwardly therefrom providing spikes that project away from the face thereof as is conventional in plate connectors and therefore further description of the same is deemed unnecessary.

In figures 3 to 6 and 8,9 there is illustrated respective hand tools 30 and 40 for

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removing a log end plate from the end of a log in preparation for sawing the log into pieces timber or lumber. The two tools are functionally the same differing from one another only in constructional details. The tool, similar to the well known claw hammer, comprises a handle 31 having a head 32 attached to one end thereof. The head 32 has a curved outer face 33 that extends from a head heel terminal end 34 to the mouth 35 of a slot 36 adjacent the head toe impact outer end 37. The slot extends inwardly in a direction toward the handle and is of such depth and width that the pull tab slip fits therein. The heel terminal end 34 is relatively thin so that it can be readily forced between a pull tab and the adjacent end face of the log. This end of the tool is used to pry the tab and bend it outwardly sufficiently so the tab can be positioned in the slot in the other end of the tool head.

The hand tool shown in figures 8 and 9 is a basic tool consisting of the handle and the head with a slot across the end of the head at the juncture of the outer end face thereof with commencement of the curved outer face at that toe end of the tool head.

The slot has the entry mouth 35 offset from the plane of the outer end face that is used to hammer the spikes into the wood. This protects the relatively sharp edge, at the throat 35, which bites into the face of the lift tab when removing a plate from the end of a log.

The hand tool shown in figures 3 to 6 has a removable part that provides the impact portion of the tool. This permits varying the mass of the head without having to change the entire tool and also is insertable into a protective and noise reducing covering. Referring specifically to figures 3 and 4 the impact end of the tool head comprises a plug 50 detachably secured to an enlargement 51 on the handle by a pair of

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pins 52,53. The pins maybe solid or a slit sleeve that can be driven in tight friction fit into aligned holes in the detachable insert or plug 50 and the handle enlargement 51. The removable head impact plug is shown in figure 4 in the form of a cylindrical member having a stepped recess 55 therein that receives the handle enlargement 51 and a portion of the handle as evident by the broken line 56.

The metal plug or insert 50 is encapsulated in a covering 60 (or slip fit into a sleeve) of suitable high impact resistant plastics material such as polypropylene, nylon or the like.

As previously mentioned the impact end of the hand tool is used to hammer the spikes of an end plate into the end of a log that has a crack , or indication of a crack forming therein. The opposite end of the tool is used to remove a plate from the end of a log. In so doing the first step is to bend a lift tab of the plate outwardly from the adjacent end of the log as illustrated in figures 5 and 8. Next the tool is repositioned to place the bent outwardly tab in the slot 36 of the tool head. The handle end of the tool is then moved causing the outer curved face 33 to roll along the outer face of the end plate. This bends the plate sufficiently to pull the plate spikes from the log.

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## I CLAIM

1. A method of arresting continuation of a split in a log wherein the split appears as a crack in an end face of such log comprising providing a plate that has a plurality of spaced apart spikes projecting from one face thereof and at least one plate pull tab, each said pull tab being of selected length, integral with said plate and operably engagable by a tool disposed adjacent a face of said plate opposite said one face, positioning said plate to span across the gap of said crack and driving the spikes of said plate into the end of the log at locations on each of opposite sides of said crack.
2. The method of claim 1 including the step of bending said pull tab outwardly in a direction away said log end face, lockingly engaging said pull tab with a tool and moving said tool to extract the spikes of said plate from said log.
3. A plate having a pair of oppositely disposed faces, a plurality of spaced apart spikes projecting from one of said pair of faces and at least one plate pull tab integral with said plate and of selected length, each said pull tab being exposed for locking engagement with a tool disposed adjacent the face of said plate opposite said one face.
4. A spiked plate as defined in claim 3 wherein there are a pair of said pull tabs that are spaced apart from one another longitudinally along said plate.

5. A spiked plate as defined in claim 4 wherein said pair of pull tabs extend in a direction toward one another whereby said free ends associated therewith face one another.

5 6. A spiked plate as defined in claim 4 wherein said pair of pull tabs extend in a direction away from one another whereby the free outer ends associated therewith face in a direction away from one another.

7. A spiked plate as defined in claim 3 including means on each said plate pull tab that projects therefrom in a direction corresponding to that of said spikes and thereby spacing the respective pull tabs a selected distance from the surface of an object impaled by said spikes.

8. A spiked plate as defined in claim 4 wherein said pull tabs are located in respective ones of a pair of space apart open windows in said plate.

9. A spiked plate as defined in claim 8 wherein said pull tabs and plate are coplanar and said pull tabs project into the window associated therewith.

10. A tool for extracting spikes, of a spiked plate, from wood comprising a tool head having first and second respective opposite terminal ends, a curved outer face commencing at said first terminal end and extending in direction toward said second

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terminal end, said tool head having at least a portion thereof adjacent said first terminal end tapering in a direction toward said first terminal end and thereby providing a curved pry bar, a slot in said head and a mouth entry into said slot located at a position adjacent said second terminal end of the head.

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11. A tool head as defined in claim 10 wherein said curved outer face extends from said first terminal end to an edge of the mouth of said slot.

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12. A tool head as defined in claim 11 wherein said second terminal end comprises a hammer head impact free outer end.

13. A tool head as defined in claim 12 wherein said impact free outer end has a surface disposed at a selected angle to said outer curved face.

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14. A tool head as defined in claim 13 wherein an edge of said mouth intersects said curved outer face and wherein said edge is offset from said impact free outer end in a direction toward said first terminal end of the head.

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15. A hand tool for removing a spiked plate, having a pull tab thereon, from wood comprising a handle and a tool head mounted on the free outer end of said handle, said tool head comprising first and second respective opposite terminal ends, a curved outer face commencing at said first terminal end and extending in direction toward said second

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terminal end, said tool head having at least a portion thereof adjacent said first terminal end tapering in a direction toward said first terminal end and thereby providing a curved pry bar, a slot in said head and a mouth entry into said slot located at a position adjacent said second terminal end of the head.

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16. A hand tool as defined in claim 15 wherein said tool head second terminal end has a relatively flat impact free outer end , wherein an edge of said mouth intersects said curved outer face and where in said edge is offset from said outer free end in a direction toward said first terminal end of the head..

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# ABSTRACT

A plate with spikes projecting therefrom to impale a log on respective opposite sides of a crack in the end of the log and wherein the plate has pull tabs integral therewith and grippingly engageable by a tool used to remove the plate from the end of the log. The tool for removing the plate from the log is similar to a claw hammer and differs therefrom by a slot adjacent the impact end of the tool and into which the pull tab on the plate is inserted.

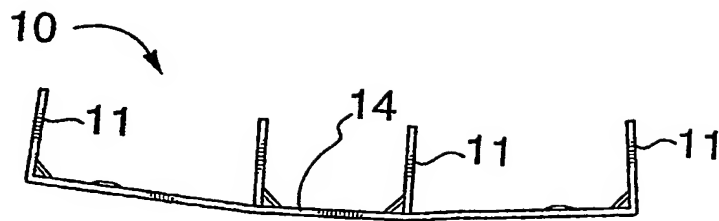
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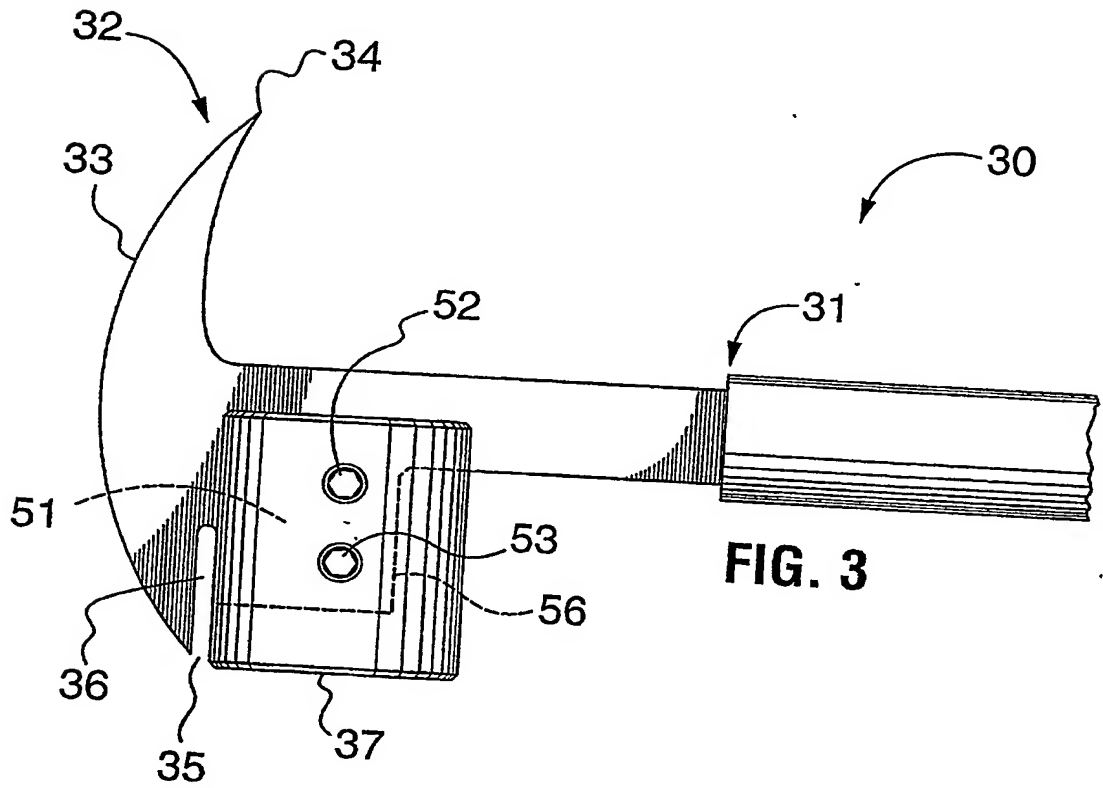
Figure 1 is a perspective view of a circular, fractured substrate 10. The substrate has concentric rings 14 and radial lines 11. A rectangular plate 13 is positioned on the surface, featuring two circular features 17. A crack 15 runs across the plate. A circular feature 20 is visible on the left side of the substrate.

**FIG. 2**

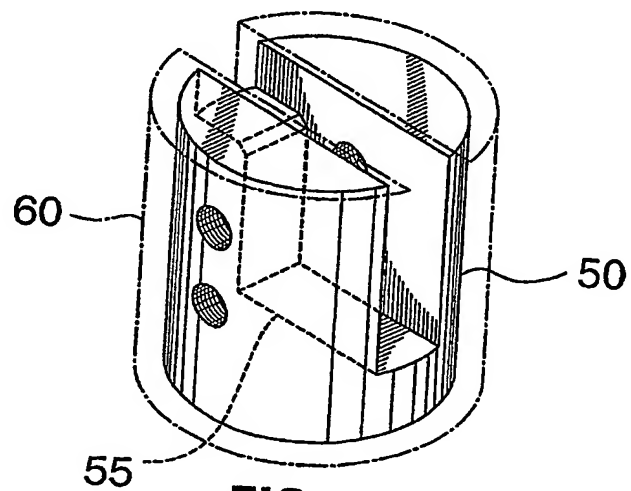
FIG. 2



**FIG. 2a**



**FIG. 3**



**FIG. 4**

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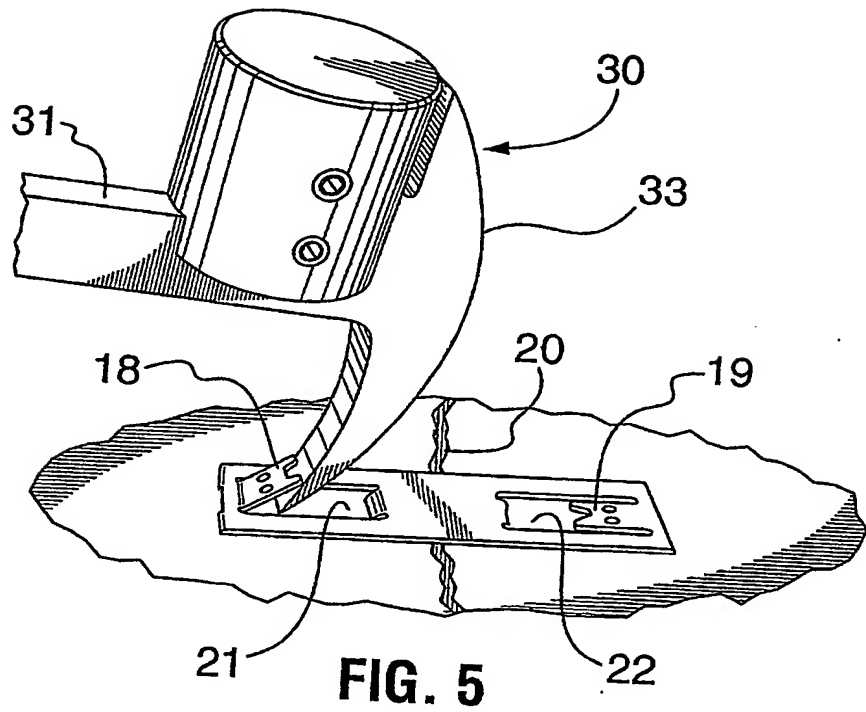


FIG. 5

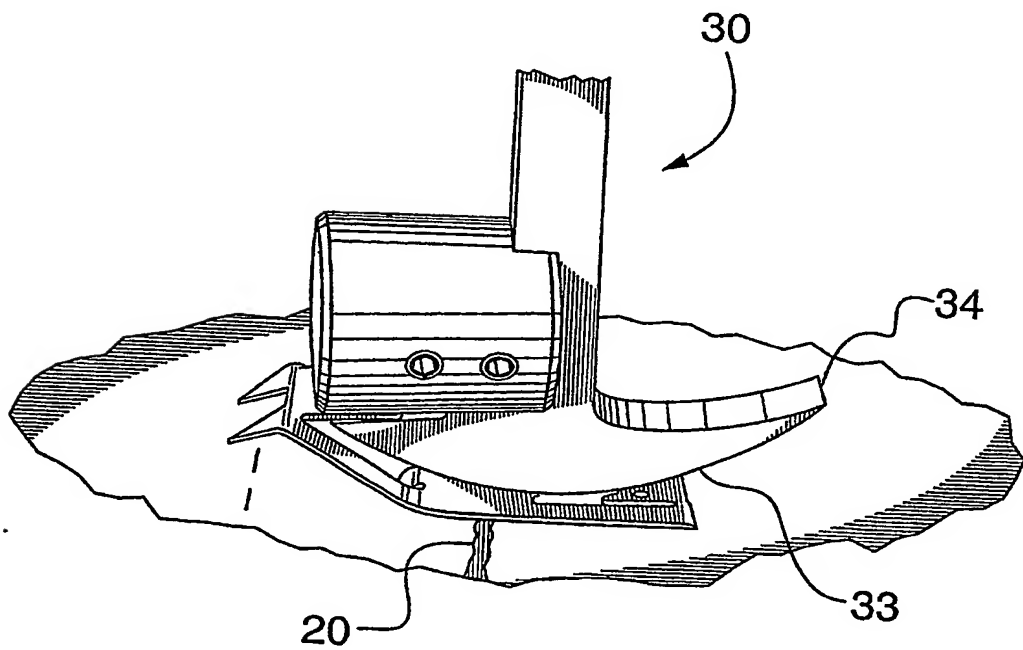


FIG. 6

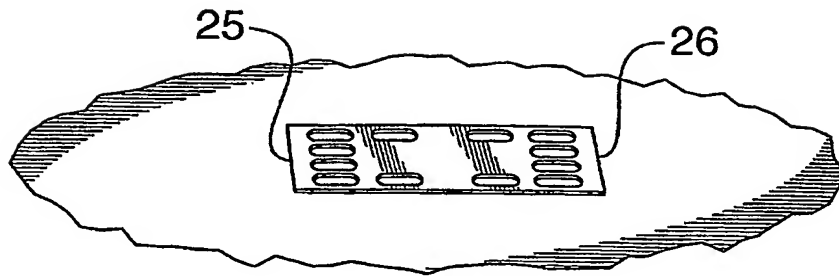


FIG. 7

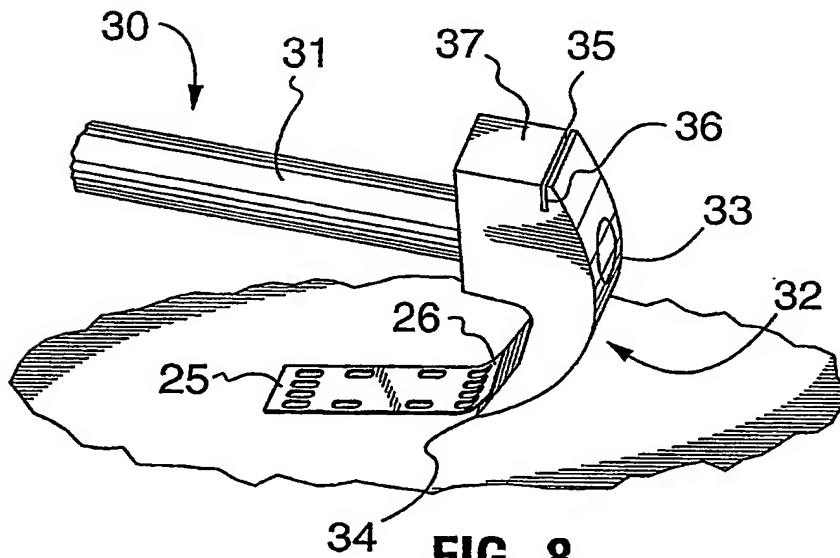


FIG. 8

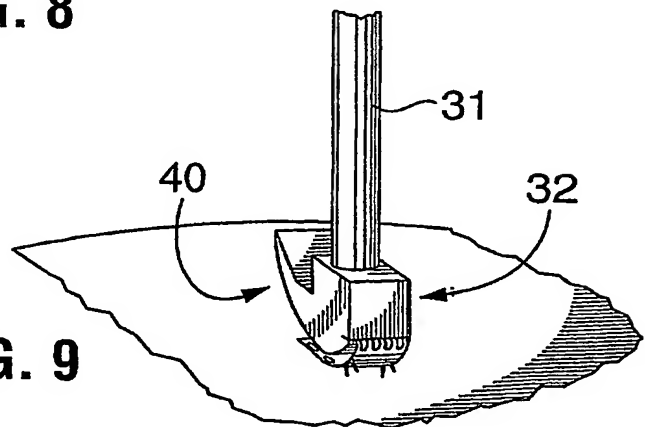
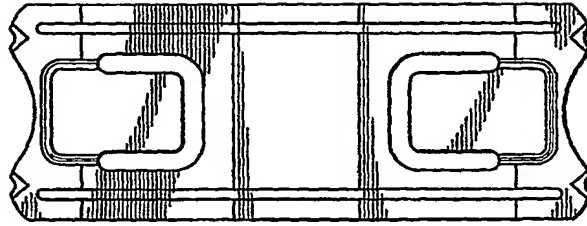


FIG. 9

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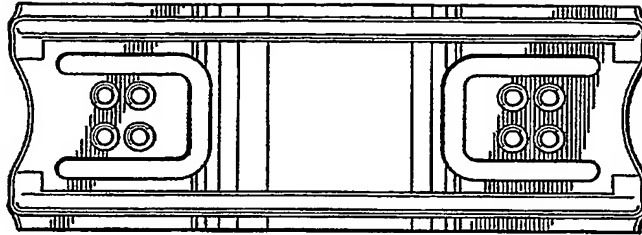
**FIG. 10**



**FIG. 11**

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**FIG. 12**



**FIG. 13**

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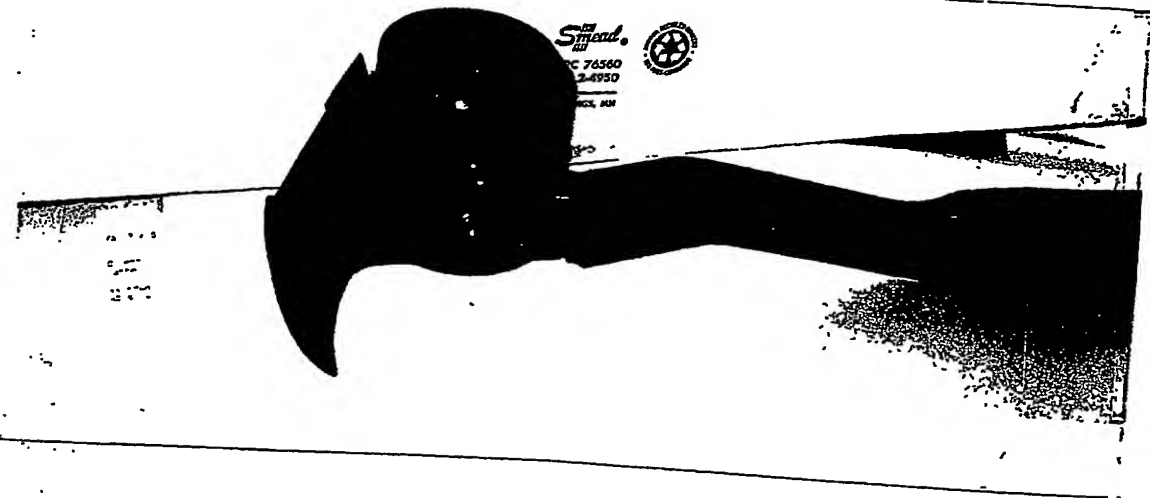


FIG. 15

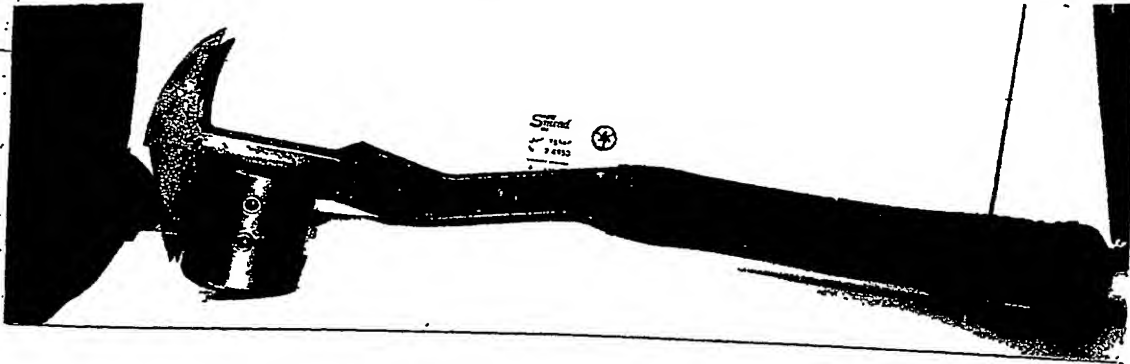


FIG. 16



FIG 14

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DECLARATION AND POWER OF ATTORNEY  
FOR UNITED STATES PATENT APPLICATION

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled SPIKED PLATE FOR LOG END AND HAND TOOL FOR REMOVING THE SAME described and claimed in the specification which:

(check one)   x   is attached hereto;

was filed on \_\_\_\_\_ as Application;

Serial No. \_\_\_\_\_ and was amended on \_\_\_\_\_  
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the patentability of this application in accordance with Title 37, Code of Federal Regulations, §1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, §119(a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on

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which priority is claimed:

Prior Foreign Application(s)

Priority Claimed

<u>NONE</u>				
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No
(Number)	(Country)	(Day/Month/Year Filed)	Yes	No

I hereby claim the benefit under Title 35, United States Code §119(e) of any United States provisional application(s) listed below:

(Application Number)	(Filing Date)
(Application Number)	(Filing Date)

I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

<u>NONE</u>		
(Appln. Serial No.)	(Filing Date)	(Status)
		(patented, pending, abandoned)
(Appln. Serial No.)	(Filing Date)	(Status)
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I hereby appoint David W. Carrithers, Reg. No. 35,475 as my attorney, to prosecute this application and to transact all business in the U.S. Patent and Trademark Office connected therewith, and I request that all communications concerning this application be addressed to:

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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 or the United States Code and that such willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Inventor's signature: *Stephen E. Parent* Date: 3/22/02

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